

Figure 1

Gene and AA sequence

```

      M L G K F S Q T C Y N S A I Q G S V L T S T C E R T N G G
1 AGGAGGACAG CTATGCTGGG CAACTTCAGC CAGACCTGCT ACAACAGCGC GATTCAGGCG AGCCTTCTGA CCAGCACCTG CGAACGTACC AATGCTGGCT
  TCCTCCTGTC GATACGACCC GTTCAAGTCG GTCTGGACGA TGTGTGCGG CTAAGTCCCG TCGCAAGACT GGTGCTGGAC GCTTGCATGG TTACCACCGA

      Y N T S S I D L N S V I E N V D G S L K W Q P S N F I E T C R N T Q
101 ACAACACTTC TAGCATGAT CTGACACGCG TGATTGAGAA TGTGGATGGC TCTCTGAAT GGCAGCCGAG CAACTTCATT GAAACCTGTC GCAACACCCA
  TGTGTGTAAG ATCGTAACTA GACTTGTCGC ACTAACTCTT ACACCTACCG AGAGACTTTA CCGTCGCTC GTTGAAGTAA CTTTGGACAG CGTTGTGGGT

      L A G S S E L A A E C K T R A Q Q F V S T K I N L D D H I A N I D
201 GCTGGCGGCG AGCTCTGAAC TGGCGGCAGA ATGCAAGACT CGCGCCAGC AGTTGTGAG CACCAAGATC AACCTGGACG ATCACATCGC GAACATTGAT
  CGACCGCCCG TCGAGACTTG ACCGCCGTCT TAGGTTCTGA GCGCGCGTGC TCAAACACTC GTGGTTCTAG TTGGACCTGC TAGTGTAGCG CTTGTAACTA

      G T L K Y E #
301 GGCACCCCTGA AGTATGAATA A
  CCGTGGGACT TCATACTTAT T
  
```

Figure 2

AA alignment

```

      .....LGKFSQTCYN SAIQGSVLTSTCERTNGGYNTSSIDLNSVIENV D G S L K W Q P S N F I      55
      |||||||
      MLGKFSQTCYN SAIQGSVLTSTCERTNGGYNTSSIDLNSVIENV D G S L K W Q P S N F I      56

      ETCRNTQLAGSSSELA AECKTRAQQFVSTKINLDDHIANIDGTLKYE*      101
      |||||||
      ETCRNTQLAGSSSELA AECKTRAQQFVSTKINLDDHIANIDGTLKYE*      102
  
```

Figure 3

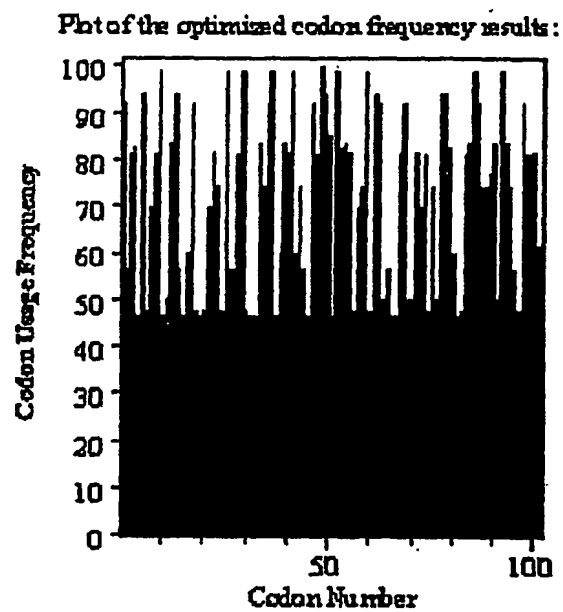


Figure 4

1 atccggatat agttcctcct ttacgcaaaa aacccctcaa gaccggtta gaggccccaa
 61 ggggttatgc tagttattgc tcagcgggtg cagcagccaa ctacagctcc ittcgggctt
 121 tgttagcagc cggatctcag tgggtgggtt ggtgggtcgc gacatccctg gggcttccg
 181 gggcgagttc tggctggcta gcccgtttga tctcaggtt ttatctcttc aggttccat
 241 caatgttcgc gatgtatcg tccaggttga tcttgggtct cacaactgc tgcgcgcgag
 301 tctgcatc tgcgccagt tccagagctc cggccagctg ggtgttgoga caggtttcaa
 361 tgaagtgtct cggctccat ttacagagag catccacatt ctcnctacg ctgttcagat
 421 caatgttga agtgtttag ccacatagg tacgttcgca ggtctgtgtc agaaogctgc
 481 cctgaatcgc gctgtttag caggtctggc tgaactgca caggtatgt atatctcct
 541 cttaaagtta aacaaaatta ttctagagg ggaattgtta tccgtcaca attccctat
 601 agtgatcgt attaatctc cgggatcgag atctcgatcc tctacccgg acgcatcgt
 661 gccggcatca cggcgccac aggtgcggtt gctggcgctt atatcgcca catcacgat
 721 ggggaagatc gggctcgcca ctccggctc atgagcgctt gttcggcgt gggtatggg
 781 gcaggcccg tggccggggg actgttggg gccatctcct tgcattgacc attccttgcg
 841 gcggcggtgc tcaacggct caactacta ctgggtgct tctaatgca ggagtgcgt
 901 aaggagagc gtcgagatcc cggacacat cgaatggcg aaaaccttc gcggtatggc
 961 atgatagcg cgggaagaga gtcaattcag ggtgtgaat gtgaaccag taacttata
 1021 cgatgtcga gatatgccg gtgtctctta tcagaccgt tcccgcgtg tgaaccagg
 1081 cagccacgtt tctcgaaaa cggggaaaa agtggaagcg gcgatggcg agctgaatta
 1141 cattcccaac cgcgtggc acaaactgc gggcaaacag tctgtctga ttggcgttc
 1201 cactccagt ctggccctgc acgcgccgc gcaattgtc gcggcgatta aatctcgcg
 1261 cgatcaactg ggtgccagcg tgggtgtgc gatggtaga cgaagcgcg tcgaagcctg
 1321 taaagggcg gtgcacaatc ttctcgcgca acgcgtcagt gggctgatca ttaactatc
 1381 gctggatgac caggatgcca ttgctgtgga agctgcctgc actaatgttc cggcgttatt
 1441 tctgatgtc tctgaccaga caacctcaa cagtattatt ttctccatg aagacggtac
 1501 gcgactggg gtggagcatc tggctgcatt gggtcaccg caaatcgcg tgttagcggg
 1561 cccattaagt tctgtctcg cgcgtctcg tctggctggc tggcataat atctactcg
 1621 caatcaaat cagcgatag cggaaaggga aggcgactgg agtgccatgt cgggtttca
 1681 acaaacatg caaatgtga atgagggcat cgttccact cggatgctg ttgcaacga
 1741 tcagatggcg ctgggcgcaa tgcgcgcat taccagatcc gggctgcgcg ttggtcgga
 1801 tatctggta gtgggatac aggatacga agacagctca tgtatatcc cggcgttaac
 1861 caccatcaa caggatttc gcctgctgg gcaaaccagc gtggaccgt tctgcaact
 1921 ctctcaggc caggcggtga agggcaatca gctgtgccc gtctcactgg tgaagaaaa
 1981 aaccacctg gcgccaata cgcgaaccg ctctccccg cgttggccg attcattaat
 2041 gcagctgga cgacagggtt cccgactgga aagcggcgag tgagcgcaac gcaattaatg
 2101 taagttagc cactcattg gcaccgggt ctgcaccgat gcccttga gacctcaacc
 2161 cagtacgct ctccgggtg gcgcggggca tgactatct cgcgcactt atgactgtc
 2221 tcttatcat gcaactcgt gacaggtgc cggcagcgt ctgggtcatt ttggcgagg
 2281 accgcttgc ctggagcgc acgatgatc gcctgtcgt tgcggatc ggaatctgc
 2341 acgctctgc tcaagcctc gtcactgtc cgcaccaa acgttctgc gagaagcagg
 2401 ccattatgc cggcatggcg gccccaggg tgcgcatg cgtgtcctg tcttgagg
 2461 ccggctagg ctggcgggt tgcctactg gtagcagaa tgaatcacc atacgcgagc
 2521 gaacgtgaag cgactgtgc tgcacacgt ctgcacctg agcaacaaca tgaatgtct
 2581 tgggttccg tgttctgaa agtctgaaa cgcggaagc agcgcctgc accattatg
 2641 tccgatctg catcgagga tctgtctgc taccctgtg aacacctaca tctgtattaa
 2701 cgaagcgctg cactgaccc tgagtattt ttctgtgtc ccgcccac cataccgca
 2761 gttgttacc ctctgttc atcggtatca ttaccccat gaacagaat ccccttaca
 2821 tgagcatct ctctgttc atcggtatca ttaccccat gaacagaat ccccttaca
 2881 cggaggcatc agtgacaaa caggaaaaa ccgcccata catggccgc ttatcagaa
 2941 gccagacatt aacgtctgc gagaaacta acgagctgga cgggatgaa caggcagaca

Figure 4 (Continued)

3001 tctgtgaatc gcttcacgac cacgctgatg agctttaccg cagctgcctc gcgcgtttcg
3061 gtgatgacgg tgaaaacctc tgacacatgc agctcccga gacggtcaca gcttgtctgt
3121 aagcggatgc cgggagcaga caagcccgtc agggcgcgtc agcgggtgtt ggcgggtgtc
3181 ggggcgcagc catgaccag tcacgtagcg atagcggagt gtatactggc ttaactatgc
3241 ggcatcagag cagattgtac tgagagtgc ccatatatgc ggtgtgaaat accgcacaga
3301 tgcgtaagga gaaaataccg catcaggcgc tcttccgctt cctcgtcac tgactcgtg
3361 cgctcggtcg ttccgctgcg gcgagcggta tcagctcact caaaggcggg aatacgggta
3421 tccacagaat caggggataa cgcaggaaag aacatgtgag caaaaggcca gcaaaaggcc
3481 aggaaccgta aaaaggcgc gttgctggcg ttttccata ggctccgcc cctgacgag
3541 catcacaata atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac
3601 caggcgttcc cccctggaag ctccctcgtg cgctcctctg ttccgacct gccgcttacc
3661 ggatacctgt ccgcttctt ccttccggga agcgtggcgc tttctatag ctacagctgt
3721 aggtatctca gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaaccccc
3781 gttcagccc accgctgcgc ctatccggt aactatcgtc ttgagtcaa cccgtaaga
3841 cagcacttat cgcactggc agcagccact gtaacagga ttacagagc gaggtatgta
3901 ggcggtgcta cagagtictt gaagtgggtg cctaactacg gctacactag aaggacagta
3961 ttggtatct cgcctctgct gaagccagtt acctcggaa aaagagtgg tagctctga
4021 tccggcaaac aaaccaccgc tggtagcggg ggttttttg ttgcaagca gcagattacg
4081 cgcagaaaaa aaggatctca agaagatcct ttgatcttt ctacggggc tgacgtcag
4141 tggaaagaaa actcacgta agggattttg gtcataaca ataaaactgt ctgcttacc
4201 aaacagtaat acaaggggtg ttatgagcca tattcaacgg gaaacgtctt gctctaggcc
4261 gcgattaat tcaacatgg atgctgatt ataggggtat aaatgggctc gcgataatg
4321 cgggcaatca ggtgcgaca ictatcgatt gtagggaag cccgatgcgc cagagttgtt
4381 tctgaaacat ggcaaggtg gcgttgccaa tgatgtaca gatgagatgg tcagactaaa
4441 ctggctgacg gaatttatgc ctctccgac catcaagcat ttatccgta ctctgatga
4501 tgcgtggtta ctccactg cgatcccg gaaacagca ttccaggtat tagaagaata
4561 tctgattca ggtgaaata ttgtgatgc gctggcagtg ttctgcgcc ggttgcatc
4621 gattcctgtt tgtaattgtc ctttaacag cgatcgcta ttctgtctg ctacggcgca
4681 atcacgaatg aataacggtt tgggtgatgc gagtgtttt gatgacgagc gtaatggctg
4741 gcctgttgaa caagtctgga aagaaatgca taaactttg ccattctcac cggattcagt
4801 cgtcactcat ggtgatttct cactgataa cttattttt gacgagggga aattaatagg
4861 ttgtattgat gttggacgag tcggaatgc agaccgatac caggatcttg ccatcctatg
4921 gaactgcctc ggtgagttt ctcttcatt acagaaacgg cttttcaaa aatatggtat
4981 tgataatcct gatataata aattgcagt icatttgatg ctgatgagt ttttctaaga
5041 attaatcat gagcgatac atattgaat gtatttagaa aaataacaa atagggttc
5101 cgcgcacatt tcccgaataa gtgccacctg aaattgtaa cgtaaatatt ttgtaaaa
5161 tcggttaaa ttttgtaa atcagctcat ttttaacca ataggccga atcgcaaaa
5221 tccctataa atcaaaagaa tagaccgaga tagggtgag tttgttcca gtttgaaca
5281 agagtccact attaaagaa gtggactcca acgtcaaagg gcgaaaaacc gtctatcagg
5341 gcgatggccc actacgtgaa ccatcaccct aatcaagttt ttggggctg aggtgccgta
5401 aagcactaaa tcggaacctt aaaggagacc cccgatttag agctgacgg ggaagccgg
5461 cgaacgtggc gagaagga ggaagaaag cgaagaggc gggcgctagg gcgctggcaa
5521 gtgtagcggc cacgctgcgc gtaaccacca caccgcccgc gcttaatgcg ccgctacagg
5581 gcgcgtccca ttgccca

Figure 5

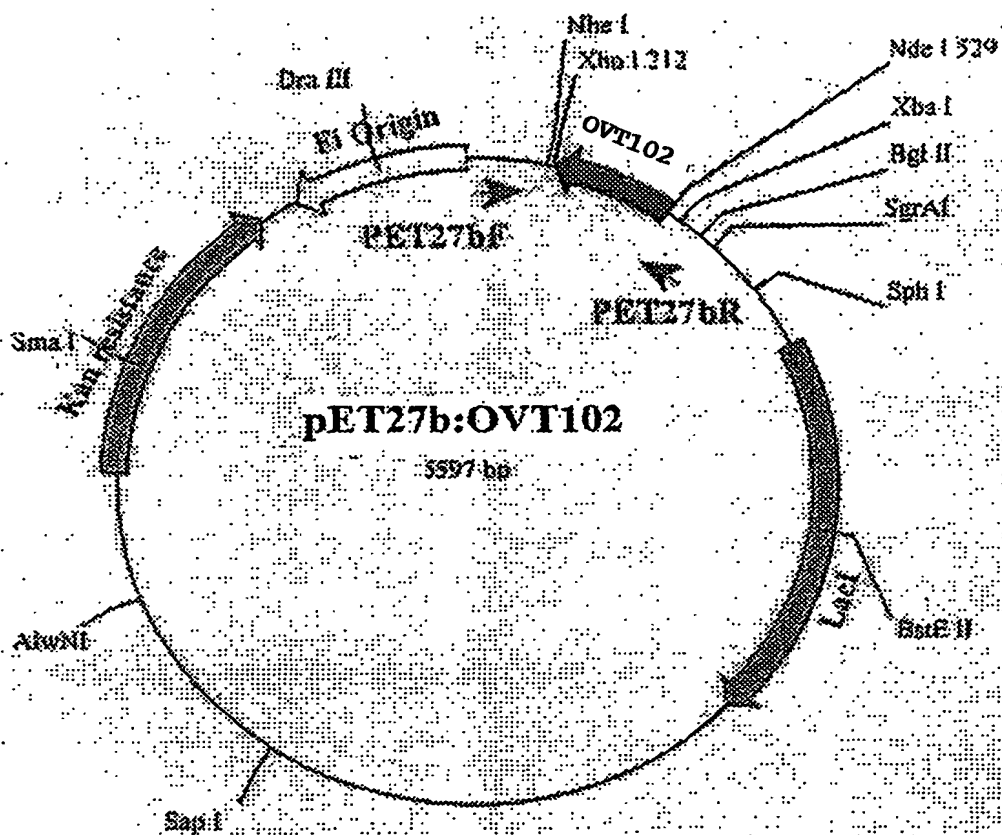


FIGURE 6



1 2 3 4 5 6 7 8 9 10 11 12

FIGURE 7

